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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/764,679	01/18/2001	Hideki Sato	1232-4673	6288
27123	7590	11/21/2005		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER ROBINSON, MARK A	
			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/764,679

Applicant(s)

SATO ET AL.

Examiner

Mark A. Robinson

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,8-16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,8-16 and 18-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9/19/05 has been entered.

Note: claim 4 was amended to read "a reflection type light modulating element." However, "reflection type" is new language and should have been underlined. Attached hereto is a copy of the claim sheet with this language underlined by the examiner. Applicant is reminded that amendments lacking the proper markings are subject to non-entry.

***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

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3. Claims 4,8,9,12-15 and 21-25 are rejected under 35

U.S.C. 102(b) as being anticipated by Bloom (US 5982553).

Bloom shows a projection apparatus including a reflective light modulating element (GLV 10), illuminating system(32R,G,B) including a lens system(50), and scanning optical system which reflects a first beam incident into a reflection area of the scanning system, scans a plane(64) with the reflected beam and transmits a second beam incident into a transmission area of the scanning system (see attached copy of Bloom fig. 8 showing reflection and transmission areas), wherein the illuminating optical system illuminates the modulating element with light which has transmitted through the transmission area of the scanning system, wherein a modulating element side of the lens system is telecentric (note the paragraph bridging col. 8-9).

Regarding claim 8, note elongate light modulating areas(12) shown in figs. 2-3 and the anamorphic element(42), and regarding claim 9, that mirror(58) scans only in a direction orthogonal to the lengthwise direction of the light modulating area.

Regarding claims 12-15, note that the modulating element modulates in conformity with ON and OFF signals to produce a 2-D image (see the abstract).

Regarding claim 21, Bloom shows a scanning apparatus as discussed above including reflective modulating element(10) and

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a scanning optical system having a reflection area which reflects and scans (via item 58) light emerged from the modulating element as image light and a transmission area (see attached fig. 8 of Bloom) which transmits a second emerged light as non-image light (the light directed toward the modulating element). Note that the direction of emerged image light to be reflected is different from the direction of emerged non-image light (i.e. the direction of image beam D+1 is different from the direction of non-image beam 46 shown in fig. 8.

Regarding claims 22 and 23, Bloom also shows a projection system(50) projecting image light to the display plane(64), and that the non-image light is incident into this projection system.

Regarding claim 24, Bloom's modulating element is *capable* of changing the emerged direction of light by diffraction, polarization or scattering and is also *capable* of stopping effects of the same.

Regarding claim 25, Bloom also shows an illumination optical system guiding light from a source(34) to the modulating element through the transmission area.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 10,11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom.

Although not shown by Bloom, both 2-D modulating elements and 2-D scanning systems are very common in the art. It would have been obvious to the ordinarily skilled artisan at the time of invention to use either a 2-D modulating element or a 2-D scanner in Bloom's system in order to enable faster scanning/scanning along plural axes as is common in the art.

6. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bloom in view of Macken (US 6078420).

Bloom discloses the limitations of claims 18-20 as discussed above and further teaches a mirror(80) with reflection and transmission areas, but does not teach this mirror to be the scanning mirror. However, Macken shows a scanning mirror(15) having both reflection and transmission areas which reflect and transmit light in the manner claimed. It would have been obvious to the ordinarily skilled artisan at the time of invention to make Bloom's mirror(80) into a scanning mirror as shown by Macken in order to reduce the number of parts in the system by combining these functions into a single element.

***Allowable Subject Matter***

7. The indicated allowability of claims is withdrawn in view of applicant's amendments to these claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Robinson whose telephone number is (571) 272-2319.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn, can be reached at (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic  
Business Center (EBC) at 866-217-9197 (toll-free).

MR

11/15/05

  
**MARK A. ROBINSON**  
**PRIMARY EXAMINER**



# ATTACHMENT

U.S. Patent

Nov. 9, 1999

Sheet 5 of 8

5,982,553

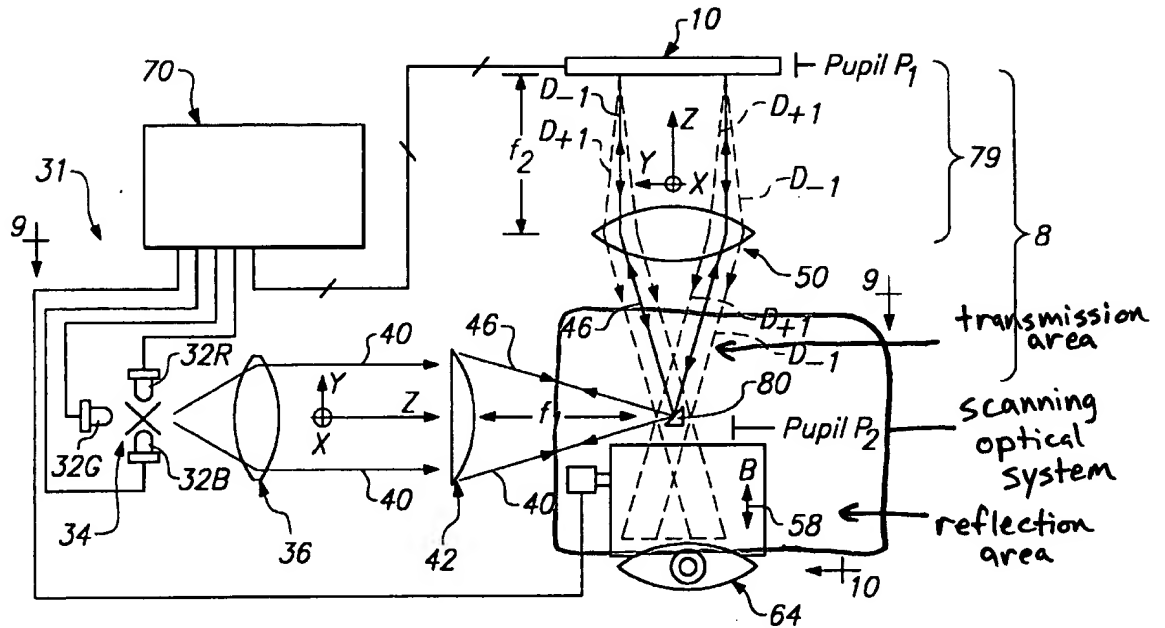


FIG. 8

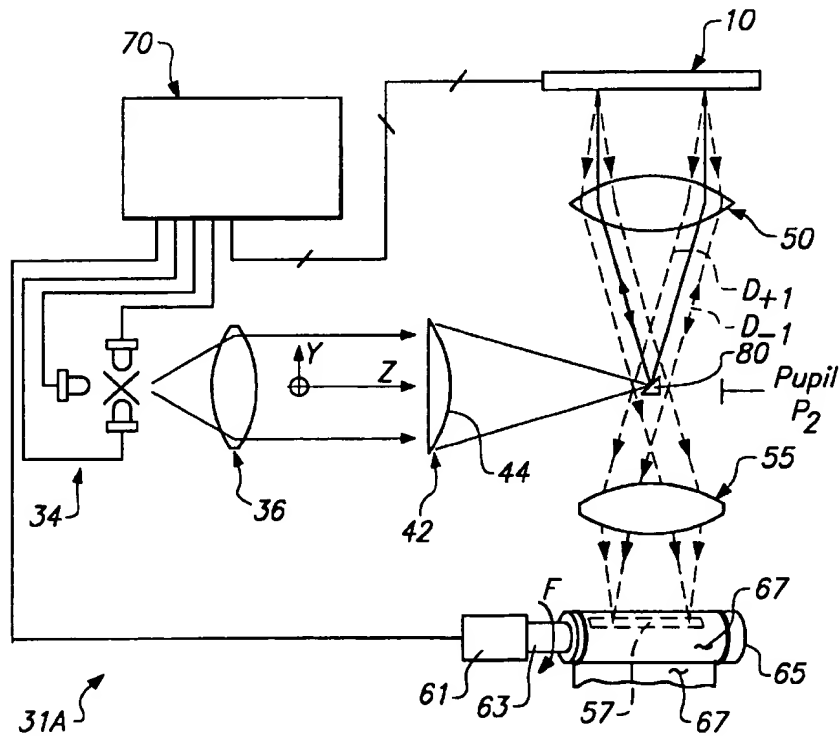


FIG. 8A